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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,568	09/19/2003	William F. McNally	7668-4	8606

30448 7590 08/21/2007

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EXAMINER	
BAREFORD, KATHERINE A	
ART UNIT	**PAPER NUMBER**
1762	

MAIL DATE	DELIVERY MODE
08/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/666,568	MCNALLY ET AL.	
	Examiner	Art Unit	
	Katherine A. Bareford	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *4,5 and 14-19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 6-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *attached* .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment of July 12, 2007 has been received and entered. With the entry of the amendment, claims 4-5 and 14-19 remain withdrawn and claims 1-3 and 6-13 are pending for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-3 and 6-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 has been amended to provide in part (c) (i), "immersing the pre-metallized, organic substrate in an aqueous Na_4EDTA solution containing metallization bath". However the use of the term "metallization bath" with regard to the Na_4EDTA solution is new matter. The disclosure as originally filed, in the specification at paragraph [0021] provides that the substrate is immersed first in what is simply a

Na_4EDTA solution. Then, according to the specification at paragraph [0022], the substrate is to be subsequently contacted with an aqueous silver salt solution (claim 1, part (c)(ii)), which can be done by adding silver salt solution to the bath of Na_4EDTA solution. This combination is referred to as the "metallization bath". Therefore, the aqueous Na_4EDTA solution of part (c)(i) of claim 1 would not be a metallization bath as originally described in the specification until the silver salt solution of claim 1 part (c) (ii) is added. The Examiner suggests rewording claim 1, part (c) (i) to read ". . . Na_4EDTA solution containing ~~metallization~~ bath"; and part (c) (ii) to read ". . . adding an aqueous, silver salt solution to the Na_4EDTA solution containing bath so as to form a [[the]] metallization bath to effect . . ."

Furthermore, claim 1 has been amended in part (c) (ii) to provide adding an aqueous, silver salt solution to the bath of part (i) to effect deposition. However, this part of the claim does not require that the substrate remain in the bath during the time of the addition, and thus, for example, the immersion of step (i) can occur, then the substrate is removed and the new combination bath of step (ii) is formed, then the substrate is re-immersed or otherwise treated. This is new matter, because as worded in paragraph [0022] of the specification as originally filed, when forming the combination bath of Na_4EDTA solution and silver salt solution, this occurs "by adding the silver salt solution directly to the bath containing the organic substrate and the aqueous Na_4EDTA solution." When paragraph [0022] describes removal of the substrate it is described as simply being immersed in the silver salt solution, not the combination "metallization"

bath. The Examiner suggests rewording claim 1, part (c) (ii) to read "subsequently, while the substrate remains the aqueous Na_4EDTA solution containing bath, adding an aqueous, silver. . ."

The other dependent claims do not cure the defects of the claims from which they depend.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 2 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabara et al (US 5302415) in view of Arcilesi et al (US 4204013), Sanders et al (US 4716055) and Mandich et al (US 5322553).

Referring to claim 1, Gabara et al. discloses a method for coating an organic substrate such as aramid fibers with metal (column 2, lines 5-20), which can include cleaning (preparing) the fibers before treatment (column 6, lines 20-30). Gabara et al then teaches etching the fibers by placing them in a sulfuric acid solution (column 3, line 35 through column 4, line 15). To coat the fibers with silver, they can then be sensitized by placing in a solution comprising stannous chloride and inorganic HCL acid (column 5, lines 1-10), then the substrate was placed in a silver salt solution which inherently deposits silver oxide on the organic substrate as no reducing agent is present and the solution further includes ammonium hydroxide as a complexing agent (column 5, lines 1-20 and column 8, lines 40-65), the solution then has a reducing agent added which acts to reduce the silver oxide to metallic silver (column 5, lines 1-20 and column 8, lines 39-64).

(1) Gabara et al does not disclose immersing the pre-metallized organic substrate in an aqueous Na_4EDTA solution "metallization bath" prior to placing the substrate into the electroless silver bath. However, Arcilesi et al. discloses that an aqueous Na_4EDTA solution treatment by immersing the substrate in the Na_4EDTA solution prior to electroless plating plastic substrates and after etching and sensitization in a stannous chloride solution acts to accelerate the deposition during the electroless process and

make the substrate more receptive to electroless plating, such as by complexing substantially all of any contaminating reducible metal ions present and extracting any residual tin constituents on the surface of the activated substrate (abstract, column 3 lines 6-45, example 1, the solution would be a "metallization" solution because all the requirements of the solution are met). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gabara et al. to include an acceleration and complexing step using immersion of the substrate in an aqueous Na_4EDTA solution as taught by Arcilesi et al. with an expectation that this step will accelerate the electroless deposition and make the substrate more receptive to the plating process.

(2) Gabara et al also does not disclose the cleaning process would be a scouring process. However, Sanders et al teaches a plating process for organic fibers that includes the steps of acid etching, sensitizing in stannous chloride and HCl, and electroless plating (column 5, line 50 through column 6, line 25). The plating can be of silver (column 11, lines 5-10). Sanders et al teaches that prior to the etching, a cleaning process is provided for the fibers where the fibers are cleaned by scouring (column 5, lines 60-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gabara et al to clean by scouring prior to the etching step to provide a desirable cleaning process, because Gabara et al teaches that it is known to clean the fibers prior to etching in a plating process and Sanders et al teaches

that a desirable cleaning process for fibers prior to etching in a plating process is by scouring.

(3) Gabara et al also does not disclose that the plating process progresses by adding aqueous silver salt solution to the Na_4EDTA solution metallization bath to form a combination bath for depositing silver oxide after treatment with the Na_4EDTA solution, and then further adding reducing agent to the combination bath to deposit metallic silver. However, Arcilesi et al, as discussed in part (1) above provides the suggestion to perform a pretreatment on the substrate using an Na_4EDTA solution before applying the silver salt solution and then further adding reducing agent to the silver salt solution as taught by Gabara. Mandich et al provides that sodium salts of EDTA are known chelating (complexing) agents to use with electroless silver plating baths (column 2, lines 15-30, examples 2 and 3, while the examples provide for disodium EDTA, the specification of Mandich et al is not limited to disodium EDTA, but is inclusive of all sodium forms). Since Gabara teaches that the silver plating solution is to be formed as a metal complex solution (column 5, lines 10-15) and further provides that one can efficiently provide treatment formulas for a second treatment by adding more ingredients after a first treatment (first treating with silver salt solution, then adding reducing agent to the salt solution for further treatment, column 5, lines 10-20), it would have been obvious to one of ordinary skill in the art that after the treatment with the Na_4EDTA solution as suggested by Arcilesi et al, to add silver salt solution as described by Gabara et al to the Na_4EDTA solution to provide a desirable,

complexed silver salt solution, as Mandich et al teaches that sodium-EDTA would be a desirable complexing agent for silver salt solutions, and then further add reducing agent to the combined bath to provide the reducing treatment as described by Gabara, in order to provide for desirable efficient reuse of the baths with little waste. The Examiner notes that Arcilesi et al provides for cold water rinsing after the acceleration treatment with Na_4EDTA solution before further electroless plating treatment, however, as worded (note the discussion in the 35 USC 112 rejection above), claim 1 allows for removal of the substrate (which would allow for rinsing) and then re-immersing in the combined Na_4EDTA solution and silver salt solution (and would also allow for removal and reimmersing between steps (ii) and (iii) if desired). Furthermore, even if the substrate remained immersed in the bath during the addition of the further materials, one of ordinary skill in the art would expect desirable plating results, given that Gabara shows that addition of materials to the baths can occur without rinsing in between (the addition of reducing agent to the silver salt bath), and applicant has made no showing of unexpected results from the addition of the materials in this manner.

Referring to claim 2, Gabara et al. discloses that the substrate is polymeric yarn or fiber (example 3).

Referring to claim 6, Sanders et al. discloses that the scouring comprises washing the substrate an aqueous solution (column 5, lines 60-65).

Referring to claim 7, Gabara et al. discloses that the tin salt is stannous chloride (example 3).

Referring to claim 8, Gabara et al. discloses that the tin solution comprises an inorganic acid, hydrochloric acid (example 3).

Referring to claim 9, Gabara et al. discloses that the silver salt is silver nitrate and the complexing agent is ammonia hydroxide.

Referring to claims 10 and 11, Gabara et al. discloses that the reducing agent is formaldehyde (example 3)

Referring to claim 12, Gabara et al. discloses that the pre-metallization solution omits a water soluble solvent (example 3).

Referring to claim 13, Gabara et al. discloses that the pre-metallization solution does not contain a surfactant (example 3). However, the silver plating solution in example 3 contains a wetting agent. Arcilesi et al. discloses that the aqueous Na_4EDTA solution can contain surfactant but does not have to (column 6, lines 35-45, example 1). As to the wetting agent in the silver plating solution, Arcilesi et al. discloses that after the acceleration treatment an electroless plating process is performed that excludes a wetting agent (example 1). Accordingly, one of ordinary skill in the art would find it obvious that when employing the accelerating step to render the substrate more receptive to the electroless plating that a surfactant is no longer necessary to help increase the plating rate.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gabara et al. in view of Arcilesi et al., Sanders et al. and Mandich et al. in further view of Liang et al. (US Patent No. 5,648,003).

Referring to claim 3, Gabara et al. in view of Arcilesi et al., Sanders et al. and Mandich et al. disclose all of the features of the claim as discussed above except they do not disclose weaving the fiber into a textile before plating. However, Liang et al teaches that it is well known to provide organic fibers woven into a textile and then to provide an electroless plating on the woven textile, where the plating material can be silver to provide desirably conductive fabrics. Column 4, lines 40-55. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gabara et al. in view of Arcilesi et al., Sanders et al. and Mandich et al. to plate fibers that have already been woven into a textile as suggested by Liang et al to provide a desirable conductive fabric.

8. Claims 1, 2 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabara et al (US 5302415) in view of Arcilesi et al (US 4204013), Sanders et al (US 4716055), Mandich et al (US 5322553) and EITHER Zeblisky (US 3960573) OR Japan 63-278506 (hereinafter '506).

Referring to claim 1, Gabara et al. discloses a method for coating an organic substrate such as aramid fibers with metal (column 2, lines 5-20), which can include cleaning (preparing) the fibers before treatment (column 6, lines 20-30). Gabara et al

then teaches etching the fibers by placing them in a sulfuric acid solution (column 3, line 35 through column 4, line 15). To coat the fibers with silver, they can then be sensitized by placing in a solution comprising stannous chloride and inorganic HCL acid (column 5, lines 1-10), then the substrate was placed in a silver salt solution which inherently deposits silver oxide on the organic substrate as no reducing agent is present and the solution further includes ammonium hydroxide as a complexing agent (column 5, lines 1-20 and column 8, lines 40-65), the solution then has a reducing agent added which acts to reduce the silver oxide to metallic silver (column 5, lines 1-20 and column 8, lines 39-64).

(1) Gabara et al does not disclose immersing the pre-metallized organic substrate in an aqueous Na_4EDTA solution "metallizaton bath" prior to placing the substrate into the electroless silver bath. Gabara does disclose that the fibers are first immersed in a aqueous sensitizing solution such as tin chloride/HCl (column 5, lines 5-10). Zeblisky teaches that sensitizing solutions applied to plastics before silver electroless plating are well known to commonly include tin chloride/HCl and palladium (column 2, line 65 through column 3, line 15, column 3, line 65 through column 4, line 5, example 1, and column 11, line 20-25). '506 teaches that when preparing an organic fiber for silver electroless plating, the fiber can first be treated with solutions of tin chloride/HCl and palladium chloride/HCl, thus exposing the fiber to both tin and palladium (see the abstract). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gabara et al. to further use palladium as

well as tin to sensitize the substrate to prepare for silver plating as suggested by EITHER Zeblisky OR '506 with an expectation that this will provide a desirable sensitizing of the substrate for silver plating. Moreover, Arcilesi et al. discloses that an aqueous Na_4EDTA solution treatment by immersing the substrate in the Na_4EDTA solution prior to electroless plating plastic substrates and after etching and sensitization in a stannous chloride/palladium solution acts to accelerate the deposition during the electroless process and make the substrate more receptive to electroless plating, such as by complexing substantially all of any contaminating reducible metal ions present and extracting any residual tin constituents on the surface of the activated substrate (abstract, column 3 lines 6-45, example 1, the solution would be a "metallization" solution because all the requirements of the solution are met) and also preventing oxidation of the palladium constituent on the substrate (column 4, lines 50-65). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gabara et al. and EITHER Zeblisky OR '506 to include an acceleration and complexing step using immersion of the substrate in aqueous Na_4EDTA solution as taught by Arcilesi et al. with an expectation that this step will accelerate the electroless deposition and make the substrate more receptive to the plating process by treating both the tin and palladium constituents on the surface.

(2) Gabara et al also does not disclose the cleaning process would be a scouring process. However, Sanders et al teaches a plating process for organic fibers that includes the steps of acid etching, sensitizing in stannous chloride and HCl, and

electroless plating (column 5, line 50 through column 6, line 25). The plating can be of silver (column 11, lines 5-10). Sanders et al teaches that prior to the etching, a cleaning process is provided for the fibers where the fibers are cleaned by scouring (column 5, lines 60-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gabara et al to clean by scouring prior to the etching step to provide a desirable cleaning process, because Gabara et al teaches that it is known to clean the fibers prior to etching in a plating process and Sanders et al teaches that a desirable cleaning process for fibers prior to etching in a plating process is by scouring.

(3) Gabara et al also does not disclose that the plating process progresses by adding aqueous silver salt solution to the Na_4EDTA solution metallization bath to form a combination bath for depositing silver oxide after treatment with the Na_4EDTA solution, and then further adding reducing agent to the combination bath to deposit metallic silver. However, Arcilesi et al, as discussed in part (1) above provides the suggestion to perform a pretreatment on the substrate using an Na_4EDTA solution before applying the silver salt solution and then further adding reducing agent to the silver salt solution as taught by Gabara. Mandich et al provides that sodium salts of EDTA are known chelating (complexing) agents to use with electroless silver plating baths (column 2, lines 15-30, examples 2 and 3, while the examples provide for disodium EDTA, the specification of Mandich et al is not limited to disodium EDTA, but is inclusive of all sodium forms). Since Gabara teaches that the silver plating

solution is to be formed as a metal complex solution (column 5, lines 10-15) and further provides that one can efficiently provide treatment formulas for a second treatment by adding more ingredients after a first treatment (first treating with silver salt solution, then adding reducing agent to the salt solution for further treatment, column 5, lines 10-20), it would have been obvious to one of ordinary skill in the art that after the treatment with the Na_4EDTA solution as suggested by Arcilesi et al, to add silver salt solution as described by Gabara et al to the Na_4EDTA solution to provide a desirable, complexed silver salt solution, as Mandich et al teaches that sodium-EDTA would be a desirable complexing agent for silver salt solutions, and then further add reducing agent to the combined bath to provide the reducing treatment as described by Gabara, in order to provide for desirable efficient reuse of the baths with little waste. The Examiner notes that Arcilesi et al provides for cold water rinsing after the acceleration treatment with Na_4EDTA solution before further electroless plating treatment, however, as worded (note the discussion in the 35 USC 112 rejection above), claim 1 allows for removal of the substrate (which would allow for rinsing) and then re-immersing in the combined Na_4EDTA solution and silver salt solution (and would also allow for removal and reimmersing between steps (ii) and (iii) if desired). Furthermore, even if the substrate remained immersed in the bath during the addition of the further materials, one of ordinary skill in the art would expect desirable plating results, given that Gabara shows that addition of materials to the baths can occur without rinsing in between (the

addition of reducing agent to the silver salt bath), and applicant has made no showing of unexpected results from the addition of the materials in this manner.

Referring to claim 2, Gabara et al. discloses that the substrate is polymeric yarn or fiber (example 3).

Referring to claim 6, Sanders et al. discloses that the scouring comprises washing the substrate an aqueous solution (column 5, lines 60-65).

Referring to claim 7, Gabara et al. discloses that the tin salt is stannous chloride (example 3).

Referring to claim 8, Gabara et al. discloses that the tin solution comprises an inorganic acid, hydrochloric acid (example 3).

Referring to claim 9, Gabara et al. discloses that the silver salt is silver nitrate and the complexing agent is ammonia hydroxide.

Referring to claims 10 and 11, Gabara et al. discloses that the reducing agent is formaldehyde (example 3)

Referring to claim 12, Gabara et al. discloses that the pre-metallization solution omits a water soluble solvent (example 3).

Referring to claim 13, Gabara et al. discloses that the pre-metallization solution does not contain a surfactant (example 3). However, the silver plating solution in example 3 contains a wetting agent. Arcilesi et al. discloses that the aqueous Na_4EDTA solution can contain surfactant but does not have to (column 6, lines 35-45, example 1). As to the wetting agent in the silver plating solution, Arcilesi et al. discloses that after

the acceleration treatment an electroless plating process is performed that excludes a wetting agent (example 1). Accordingly, one of ordinary skill in the art would find it obvious that when employing the accelerating step to render the substrate more receptive to the electroless plating that a surfactant is no longer necessary to help increase the plating rate.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gabara et al. in view of Arcilesi et al., Sanders et al., Mandich et al and EITHER Zeblisky OR '506 in further view of Liang et al. (US Patent No. 5,648,003).

Referring to claim 3, Gabara et al. in view of Arcilesi et al., Sanders et al., Mandich et al. and EITHER Zeblisky OR '506 disclose all of the features of the claim as discussed above except they do not disclose weaving the fiber into a textile before plating. However, Liang et al teaches that it is well known to provide organic fibers woven into a textile and then to provide an electroless plating on the woven textile, where the plating material can be silver to provide desirably conductive fabrics. Column 4, lines 40-55. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gabara et al. in view of Arcilesi et al., Sanders et al., Mandich et al. and EITHER Zeblisky OR '506 to plate fibers that have already been woven into a textile as suggested by Liang et al to provide a desirable conductive fabric.

10. The Examiner notes that Greenberg et al (US 3993845) discloses the use of EDTA as a complexing agent with a silver salt solution (column 3, lines 10-20) and Greenberg (US 3978271) also discloses the use of EDTA and tetrasodium ethylenediamine tetraacetate as a complexing agent with a silver salt solution (column 3, lines 55-65).

Response to Arguments

11. Applicant's arguments with respect to claims 1-3 and 6-13 have been considered but are moot in view of the new ground(s) of rejection.

As to applicant's arguments as to the 35 USC 103 rejection using Gabara et al in view of Arcilesi et al (applicant refers to Arscilesi, however, the correct spelling appears to be Arcilesi) and Sanders et al, at pages 7-9 of the Remarks of July 12, 2007, the Examiner notes that she has provided the further reference to Mandich et al as to the use of sodium EDTA in an electroless plating bath, based on the newly required features of the claims. The suggestion to use the initial Arcilesi et al EDTA bath in combination with the silver plating bath of Gabara is discussed in the rejection above. As to the argument that Arcilesi et al requires an excess of strong acid in the EDTA bath, the Examiner is unsure what applicant means. Arcilesi et al requires the presence of acids, however, the EDTA bath is can have a solution ranging from 0 up to about neutral (column 6, lines 5-10). Therefore, as described in Arcilesi, the solution can be "about neutral" in pH. Moreover, applicant has provided no reasoning as to why using an acid in the solution would distinguish over the present claims. If applicant is

referring to arguments in the last response of April 9, 2007 that silver oxide would not form in an acid solution, applicant has made no showing as to this issue, as was previously discussed at page 14 of the Office Action of April 27, 2007. As to Sanders et al using a basic surfactant that is contrary to claim 13, the Examiner disagrees. Claim 1 provides scouring in a step (a) that occurs before "pre-metallization" (step (b)). Claim 13 provides that the pre-metallization solution, the Na_4EDTA solution, and the silver salt solution omit a surfactant. No reference or requirement is made as to the scouring step, so as worded, the scouring step can include a surfactant. Also, applicant has not pointed out where Sanders et al requires a "surfactant".

As to applicant's arguments as to the 35 USC 103 rejection of claim 3 using Gabara et al in view of Arcilesi et al, Sanders et al, and further in view of Rheaume, at pages 9-10 of the Remarks of July 12, 2007, the Examiner notes that the new reference to Liang has been provided as to the newly required features of claim 3.

As to applicant's arguments as to the 35 USC 103 rejection using Gabara et al in view of Arcilesi et al, Sanders et al and EITHER Zeblisky OR '506 at pages 8-13 of the Remarks of July 12, 2007, the Examiner notes that she has provided the further reference to Mandich et al as to the use of sodium EDTA in an electroless plating bath, based on the newly required features of the claims. The suggestion to use the initial Arcilesi et al EDTA bath in combination with the silver plating bath of Gabara is discussed in the rejection above. As to the argument that palladium is not used or inferred in the present application, the Examiner notes that the present claims have no exclusion of

palladium. The rejection above provides why a process that reads on that claimed by applicant would be suggested to one of ordinary skill in the art. While that process may include the use of palladium as to this particular rejection, that use would not be prevented or excluded by the present claims. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). The same holds true for treatment of tin by Arcilesi.

As to applicant's arguments as to the 35 USC 103 rejection of claim 3 using Gabara et al in view of Arcilesi et al, Sanders et al, and EITHER Zeblisky OR '506 and further in view of Rheaume, at page 13 of the Remarks of July 12, 2007, the Examiner notes that the new reference to Liang has been provided as to the newly required features of claim 3.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:00-3:30) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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